

BookletChart™

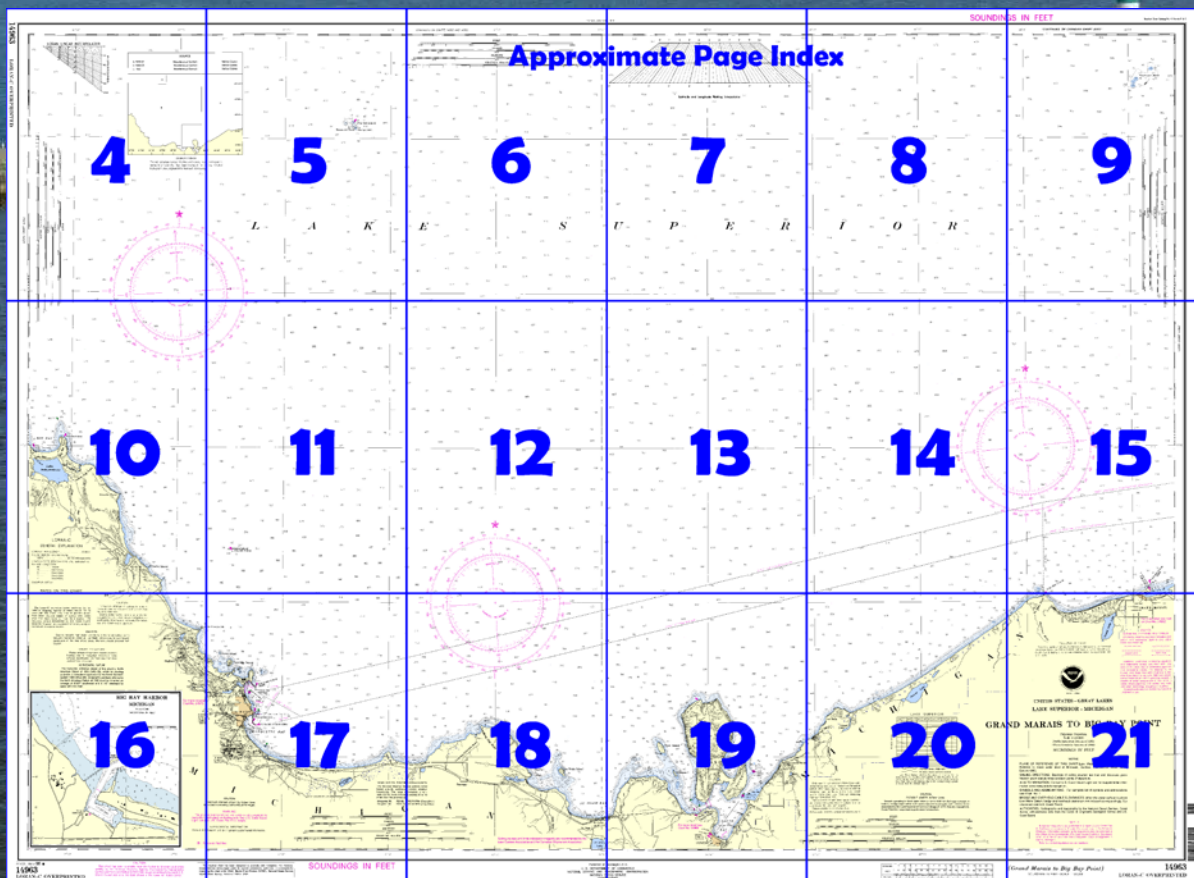
Grand Marais to Big Bay Point NOAA Chart 14963



A reduced-scale NOAA nautical chart for small boaters
When possible, use the full-size NOAA chart for navigation.



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=14963>.



(Selected Excerpts from Coast Pilot)

Grand Marais, MI is a village and small-craft harbor in **West Bay**, 29 miles west of Little Lake Harbor. It is an important harbor of refuge, being the only harbor of any kind along the dangerous 65-mile stretch of shore between Little Lake and Grand Island. The bay is separated from Lake Superior at the west end by a low sand ridge and at the E end by a shallow sandspit. The natural entrance to the bay, across the spit, has been closed by a pile

dike. The dike is reinforced with riprap, but in 1981, it was in ruins and was not visible above the water. Numerous submerged piles at the dike are a hazard to any craft.

Prominent features.—Prominent are a red brick school and chimney in the village and a white building on the west side of the harbor entrance. **Grand Marais Harbor of Refuge Outer Light** (46°41'02"N., 85°58'18"W.), 40 feet above the water, is shown from a skeleton tower, upper part enclosed, on the outer end of the west pier; a seasonal sound signal is at the light.

Channels.—A dredged entrance channel leads between parallel piers across the sandspit which separates Lake Superior and West Bay. The outer and inner ends of the W pier and the outer end of the east pier are marked by lights. In 2006, the controlling depth in the channel was 12.2 feet (14.7 feet at midchannel).

Anchorage.—West Bay has good anchorage in depths of 18 to 40 feet, sand bottom. Sand moving in through breaks in the dike has caused shoaling in the E end of the harbor, so anchorage in the west end is advised.

Grand Marais Coast Guard Station, operated on weekends during the boating season, is on the west side of the entrance channel.

Small-craft facilities.—A public dock developed by the Michigan State Waterways Commission at the west end of the harbor provides transient berths, gasoline, diesel fuel, water, electricity, sewage pump-out facilities, and a launching ramp. Arrangements can be made for minor repairs.

From Grand Marais, the shore extends west-southwest for 7 miles, thence northwest for 1.7 miles to Au Sable Point. **Grand Sable**, a steep bluff with elevations of 400 feet above the lake, extends from 1 mile west of Grand Marais to within 1 mile of Au Sable Point. Shoals extend 0.2 to 0.4 mile offshore in this stretch.

Au Sable Light (46°40.3'N., 86°08.4'W.), 100 feet above the water, is shown from a white conical tower, red dwelling attached, on **Au Sable Point**.

Local magnetic disturbance.—A large area of magnetic disturbance has been observed about 40 miles northwest of Au Sable Point.

A shoal with a least depth of 6 feet extends 0.9 mile northwest from Au Sable Point.

Pictured Rocks National Lakeshore occupies the entire shore from 1.5 miles west of Grand Marais W to Au Sable Point, thence southwest for 28 miles to within 2.5 miles of Munising.

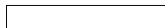
From Au Sable Point, the shore extends southwest for 17.5 miles to **Grand Portal Point**. The shore for most of this reach is bluff with high points up to 100 feet above the lake close to shore. About 4 miles northeast of Grand Portal Point, the shore changes to sheer exposed cliffs over 100 feet high. Except for 23- and 24-foot shoals about 0.5 mile offshore 3 and 4 miles northeast of Grand Portal Point, respectively, no outlying obstructions are along this stretch.

From Grand Portal Point, the shore trends southwest for 9.7 miles to **Sand Point**. The cliffs of Pictured Rocks extend along the first 8 miles of this stretch. **Sail Rock** and **Miners Castle Point**, 1 and 6 miles southwest of Grand Portal Point, respectively, are prominent. S of Pictured Rocks, a high wooded bluff continues close to shore past Sand Point. Shoals extend about 0.3 mile offshore in this stretch. About 2.2 miles southwest of Miners Castle Point, a shoal with a least depth of ½ foot makes out from shore and extends southwest to a point 0.3 mile northwest of Sand Point. The shoal is marked by a lighted bell buoy.

U.S. Coast Guard Rescue Coordination Center **24 hour Regional Contact for Emergencies**

RCC Cleveland	Commander	
	9th CG District	(216) 902-6117
	Cleveland, OH	

Table of Selected Chart Notes



Pump-out facilities

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

→ → → Pipeline Area ~~~~~ Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging or trawling. Covered wells may be marked by lighted or unlighted buoys.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:

○ (Accurate location) α (Approximate location)

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

NOAA VHF-FM WEATHER BROADCASTS

The National Weather Service stations listed below provide continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Marquette, Mi. KIG-66 162.55 MHz (Chan WX-1)
Houghton, Mi. WXX-73 162.40 MHz (Chan WX-2)

Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1902 must be corrected an average of 0.527" southward and 0.776" westward to agree with this chart.

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Charted hydrography may originate from these and prior surveys.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot 6 for details.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio, or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.

Refer to charted regulation section numbers.

CAUTION

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.

Sailing courses and limits indicated in magenta are recommended by the Lake Carriers Association and the Canadian Shipowners Association.

LOTRAN-C

GENERAL EXPLANATION

LOTRAN-C FREQUENCY 100kHz
PULSE REPETITION INTERVAL 89,700 microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M Master
W Secondary
X Secondary
Y Secondary
Z Secondary
EXAMPLE: 8970-Y

RATES ON THIS CHART

8970-X 8970-Y

The LOTRAN-C correction tables published by the Defense Mapping Agency or others should not be used with this chart. The lines of position shown have been adjusted based on survey data. Every effort has been made to meet the 1 nautical mile accuracy criteria established by U.S. Coast Guard. Mariners, however, are cautioned not to rely solely on the lattices in inshore waters.

CAUTION

POTABLE WATER INTAKE (PWI)

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental information.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see Chart No. 1.

AIDS TO NAVIGATION. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

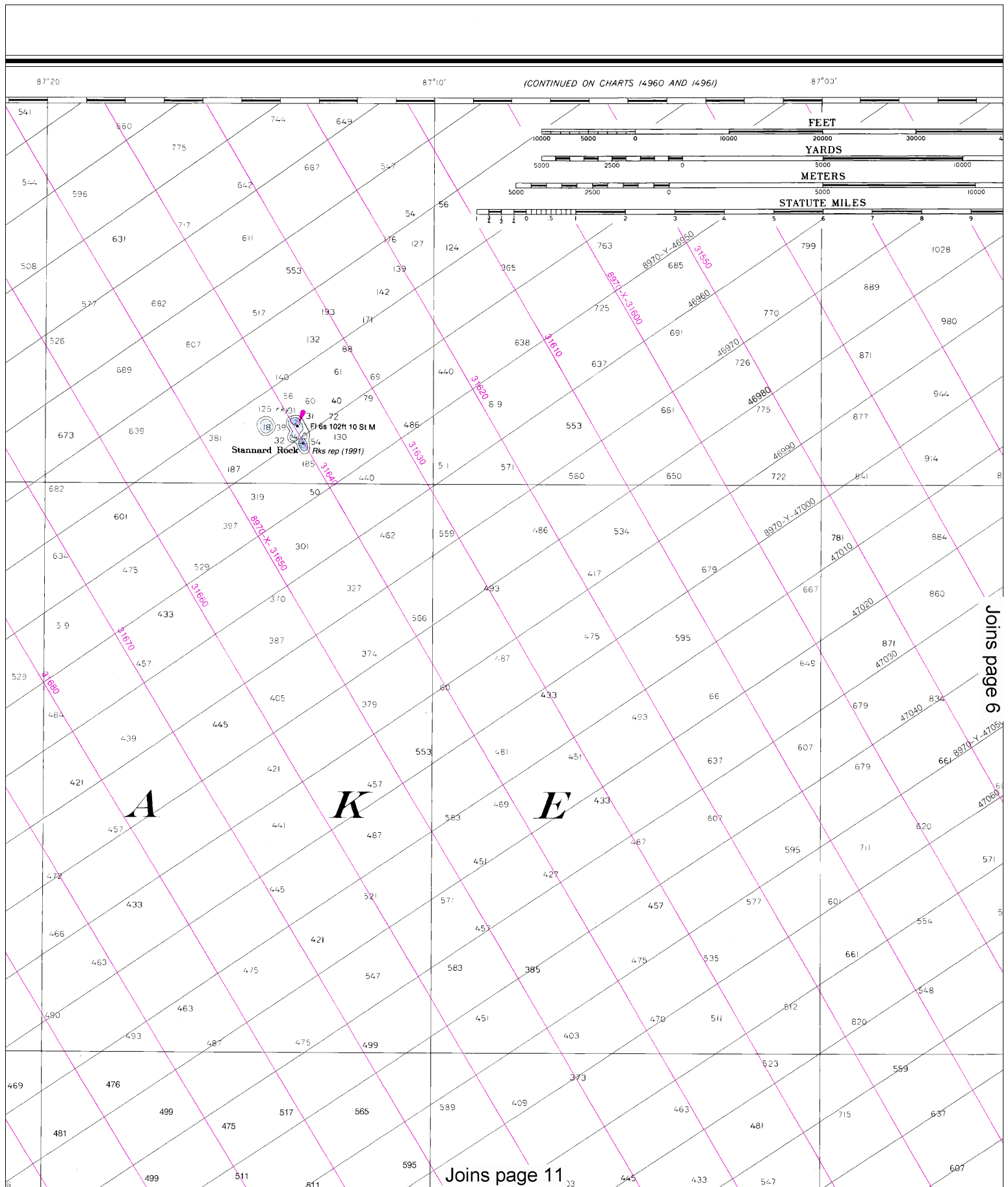
SAILING DIRECTIONS. Bearings of sailing courses are true and distances given thereon are in statute miles between points of departure.

PLANE OF REFERENCE OF THIS CHART (Low Water Datum) 601.1ft. Referred to mean water level at Rimouski, Quebec, International Great Lakes Datum(1985).

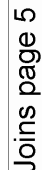
BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

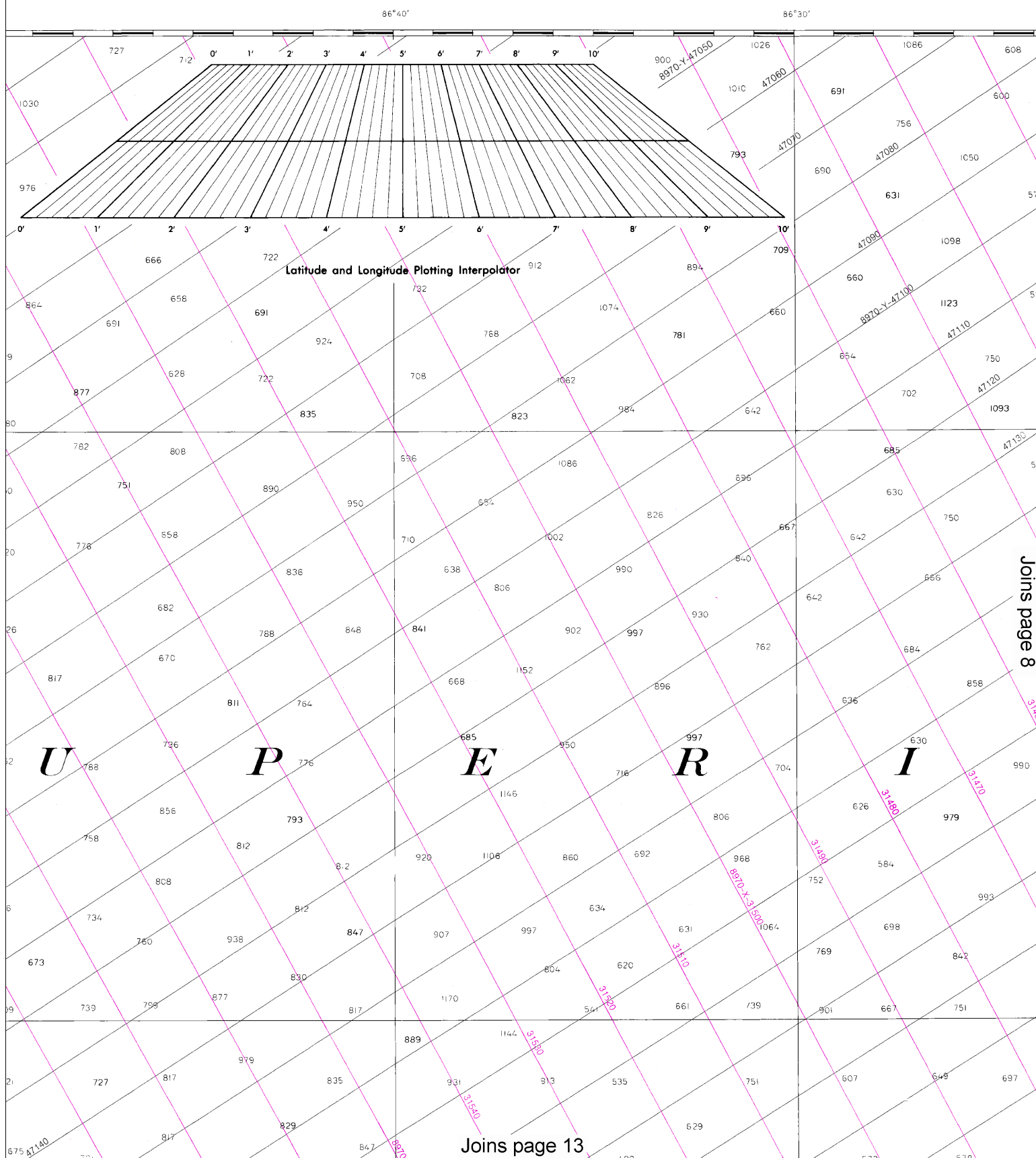
AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.





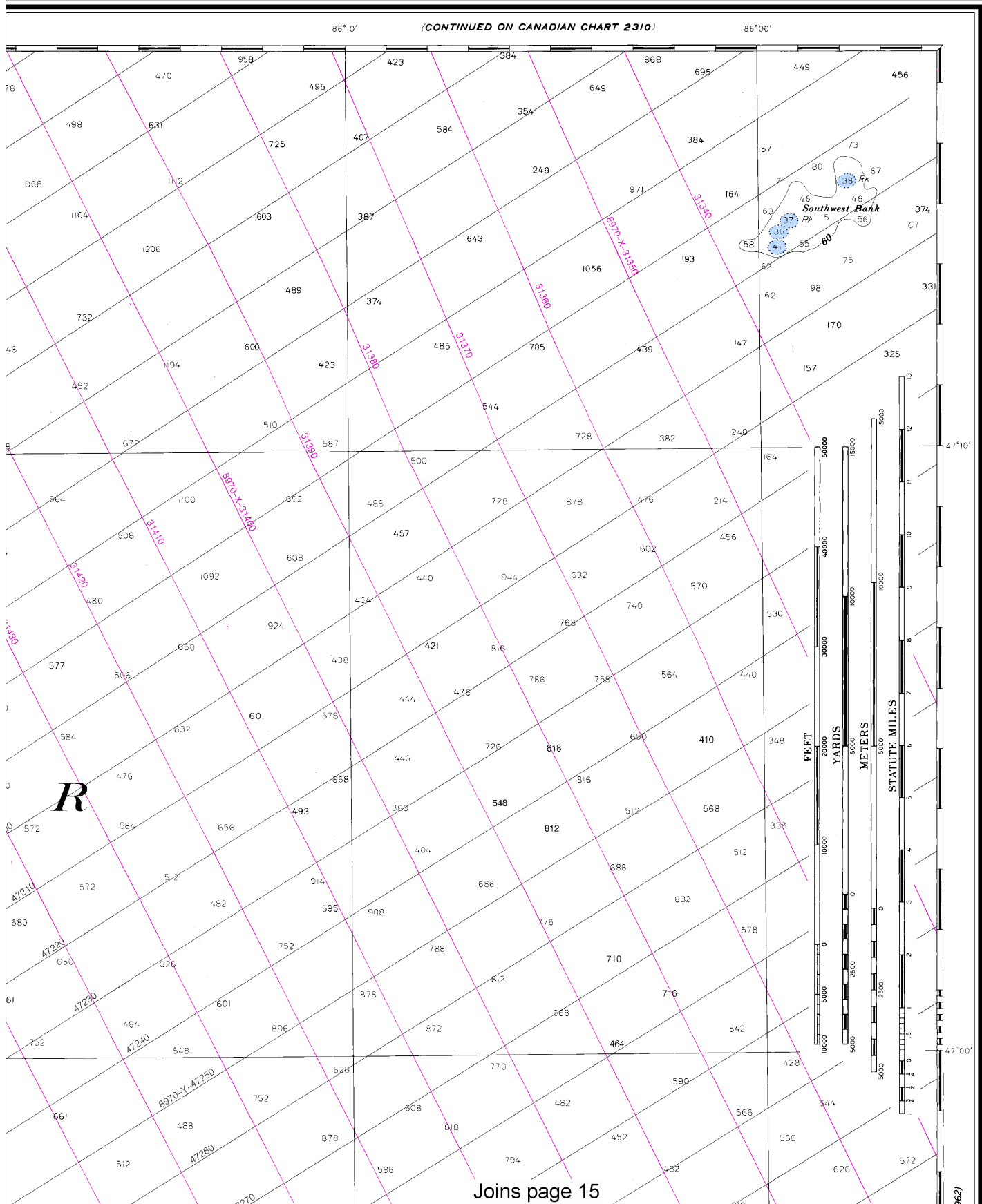
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The new scale is 1:160000. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.

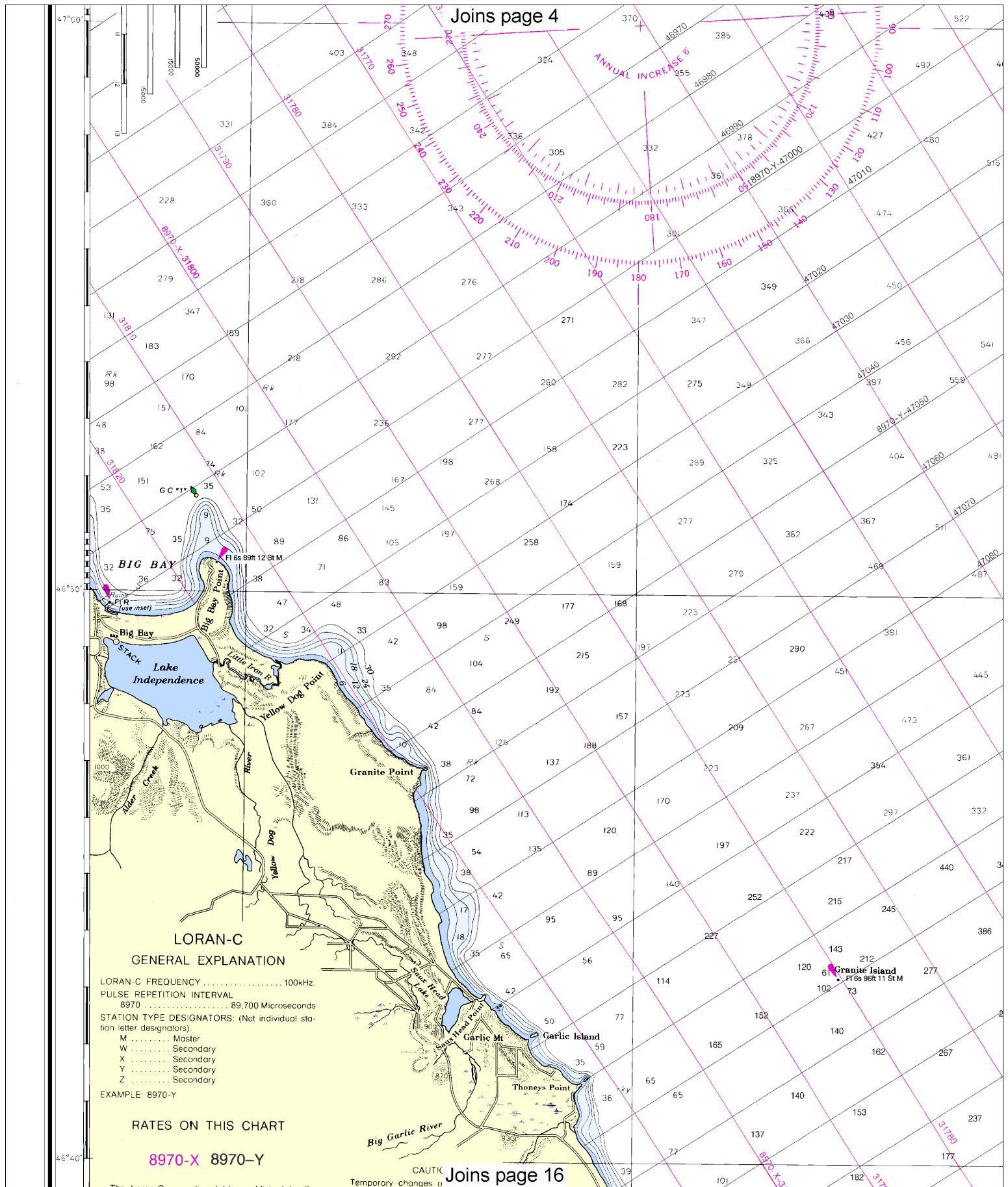




SOUNDINGS IN FEET

Nautical Chart Catalog No. 4, Panels B & C



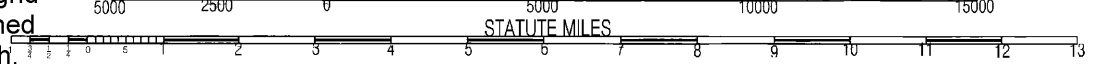


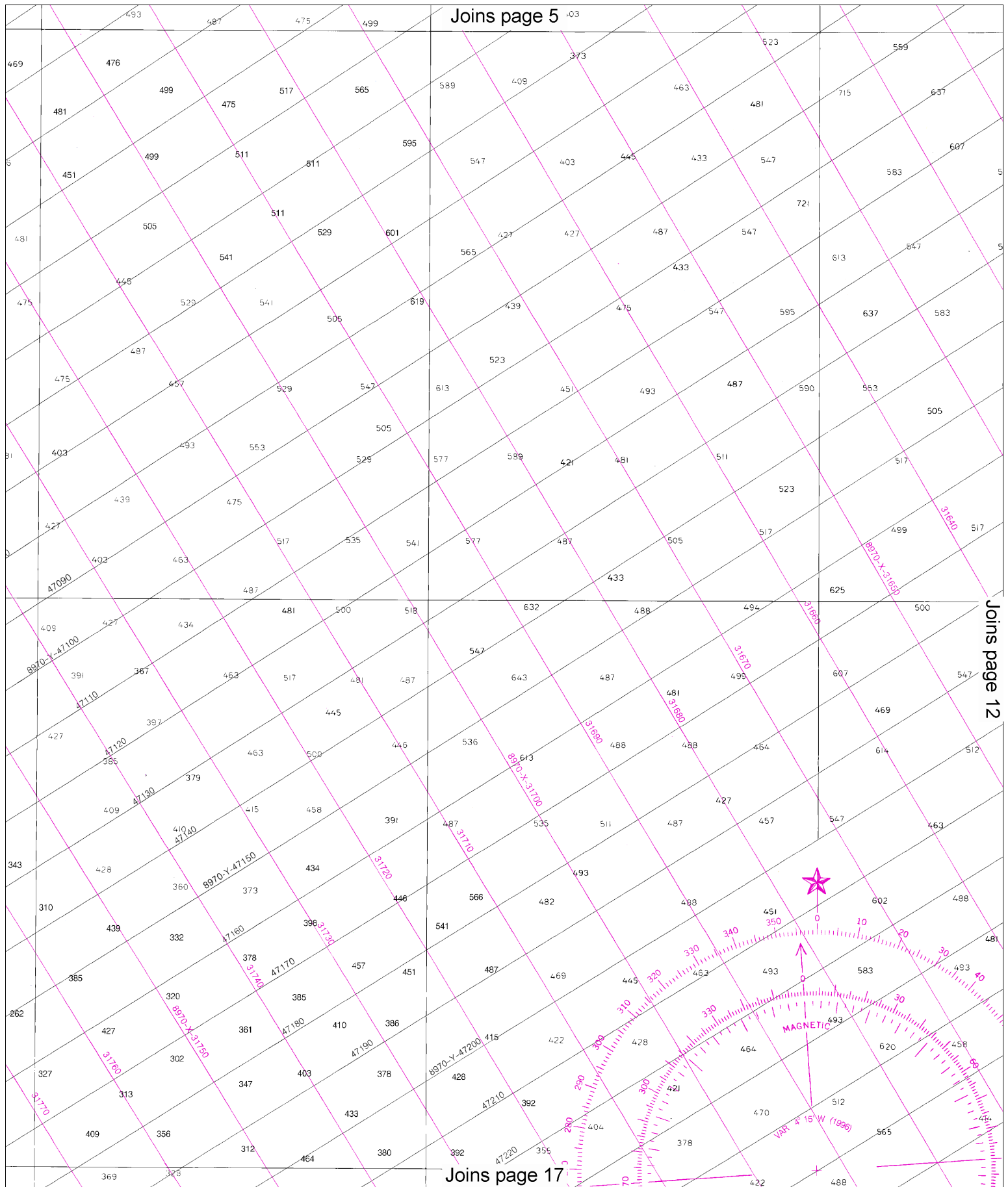
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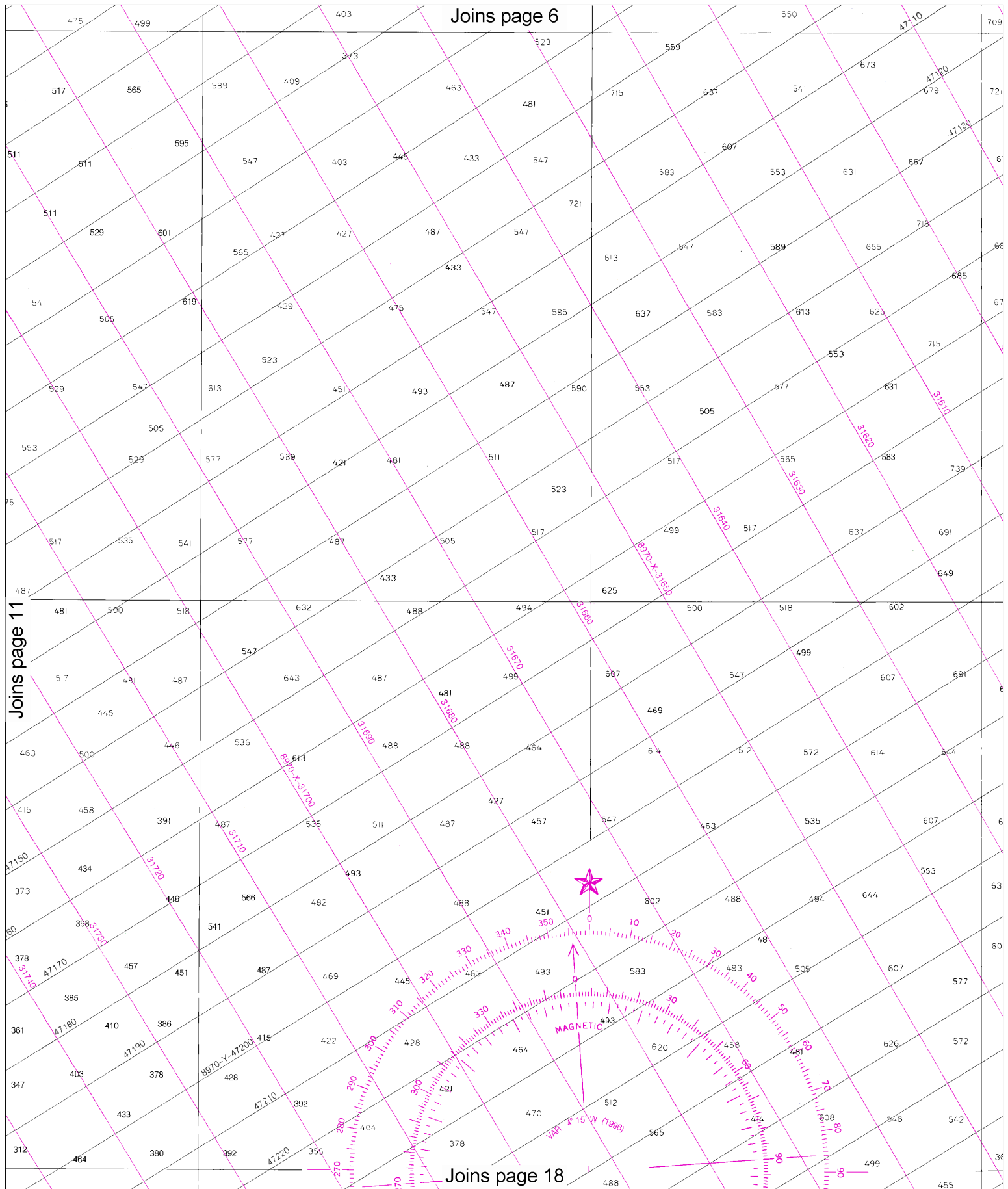
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

See Note on page 5.







12

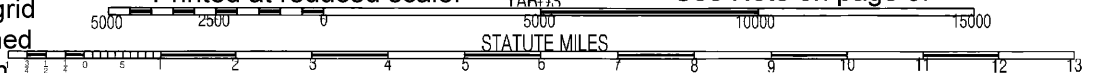
Note: Chart grid
lines are aligned
with true north.

Printed at reduced scale.

YARDS

See Note on page 5.

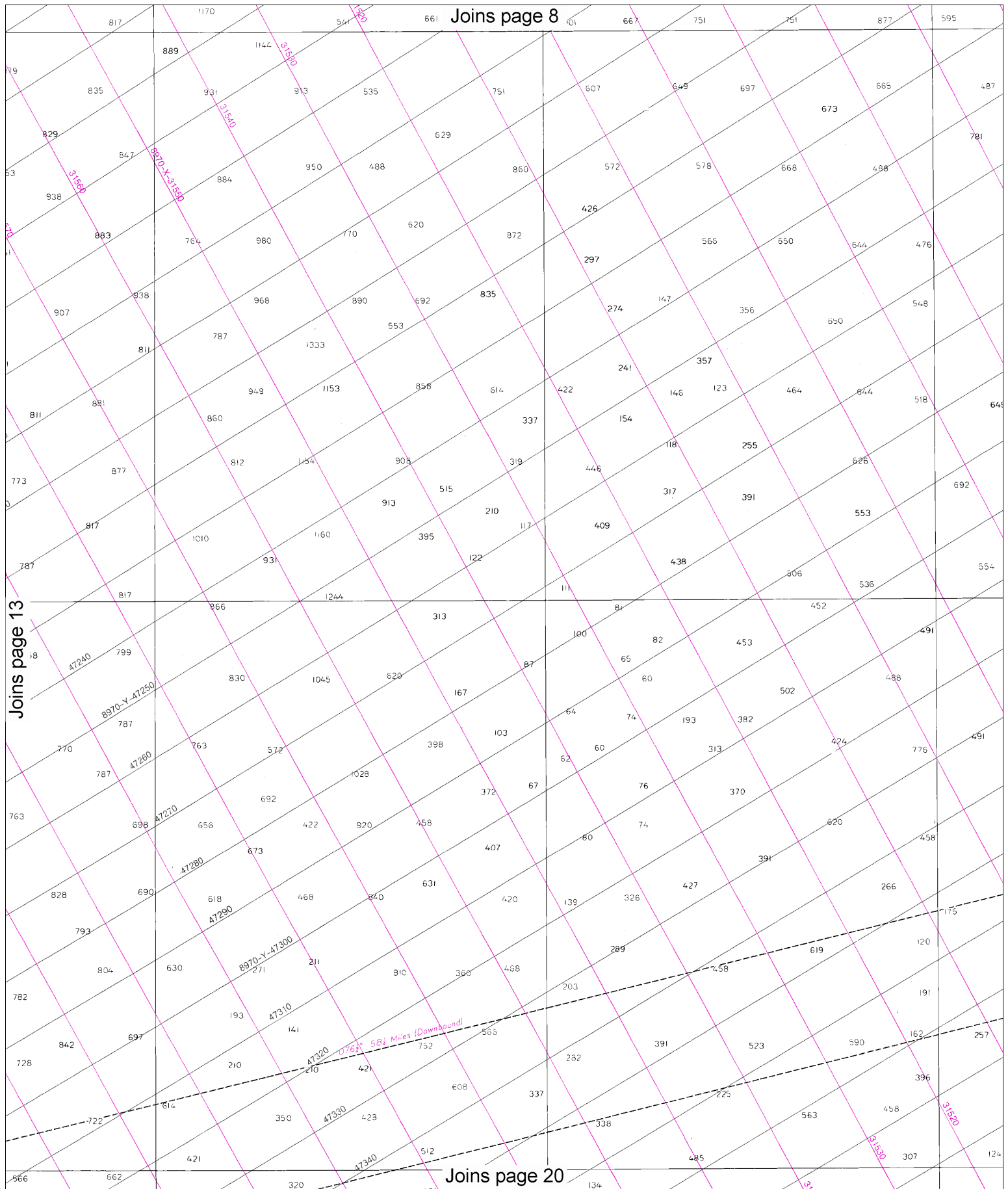
STATUTE MILES



Joins page 7

Joins page 14

Joins page 19



14

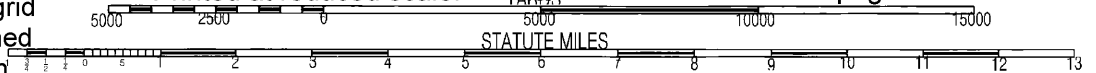
Note: Chart grid lines are aligned with true north.

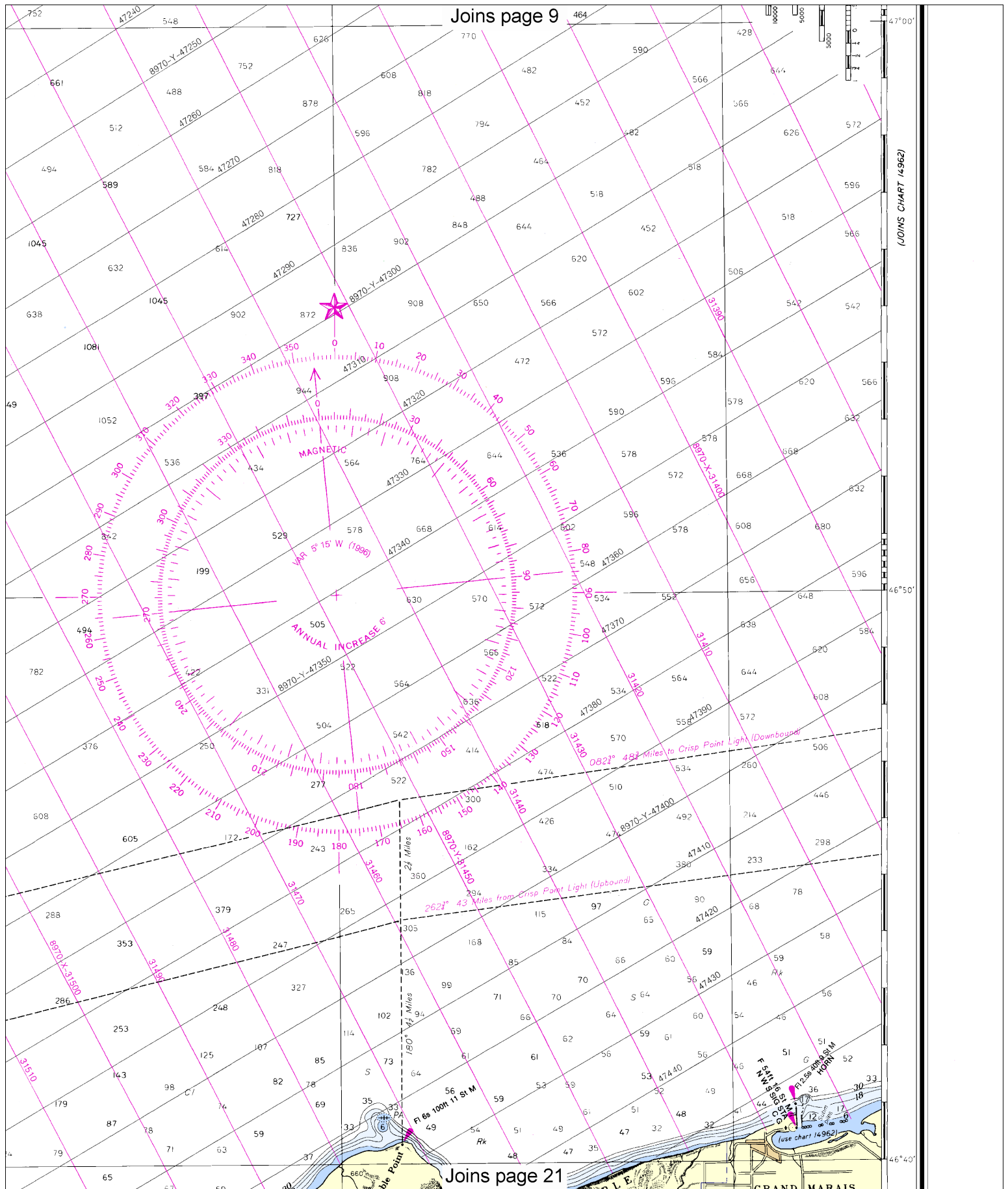
Printed at reduced scale.

YARDS

See Note on page 5.

STATUTE MILES





M	Master
W	Secondary
X	Secondary
Y	Secondary
Z	Secondary

EXAMPLE: 8970-Y

RATES ON THIS CHART

8970-X 8970-Y

The Loran-C correction tables published by the Defense Mapping Agency or others should not be used with this chart. The lines of position shown have been adjusted based on survey data. Every effort has been made to meet the $\frac{1}{4}$ nautical mile accuracy criteria established by U.S. Coast Guard. Mariners, however, are cautioned not to rely solely on the lattices in inshore waters.

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Joins page 10: Island

BIG BAY HARBOR

MICHIGAN

MORTGAGE

FEET

NO-DISCHARGE ZONE
(see note Z)

CAUTION

This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic/Topographic Center and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the date shown in the lower left hand corner.

CAUTION
Improved channels shown by broken lines
are subject to shoaling, particularly at the edges.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot 6 for details.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 for important supplemental information.

Ⓟ Pump-out facilities

This nautical chart has been designed to promote safe navigation. Ocean Service encourages users to submit corrections, additions, or improvements to this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, Silver Spring, Maryland 20910-3282.

20th Ed., Mar 2/96 ■

14963

LORAN-C OVERPRINTED

16

Note: Chart grid lines are aligned with true north!

Printed at reduced scale.

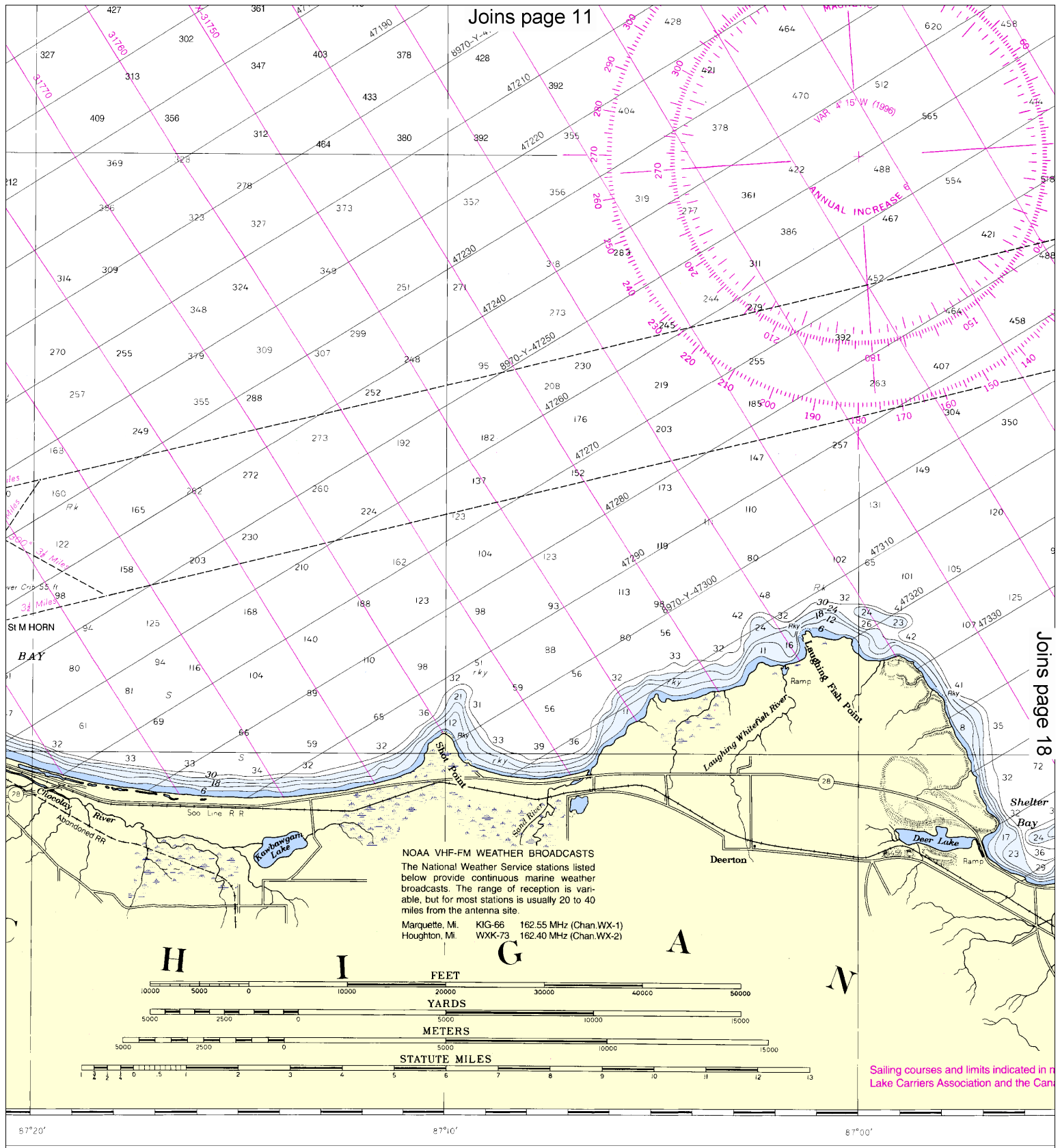
YARDS

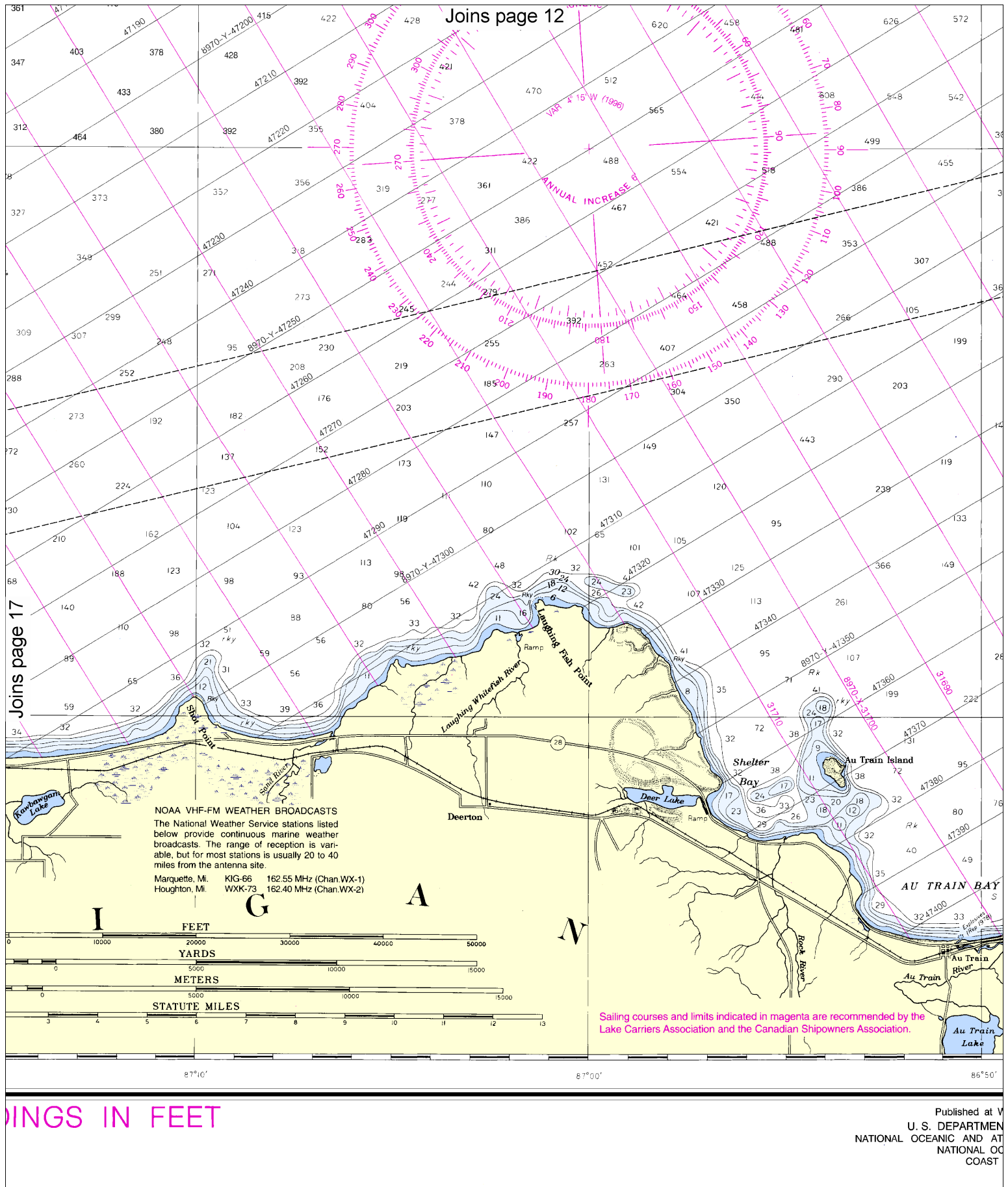
STATUTE MILES

See Note on page 5.

Age Group	Number of Respondents (approx.)
18-24	14500
25-34	13500
35-44	12500
45-54	11500
55-64	10500
65-74	9500
75-84	8500
85+	7500

STATUTE MILES

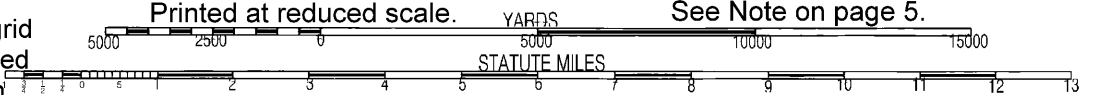


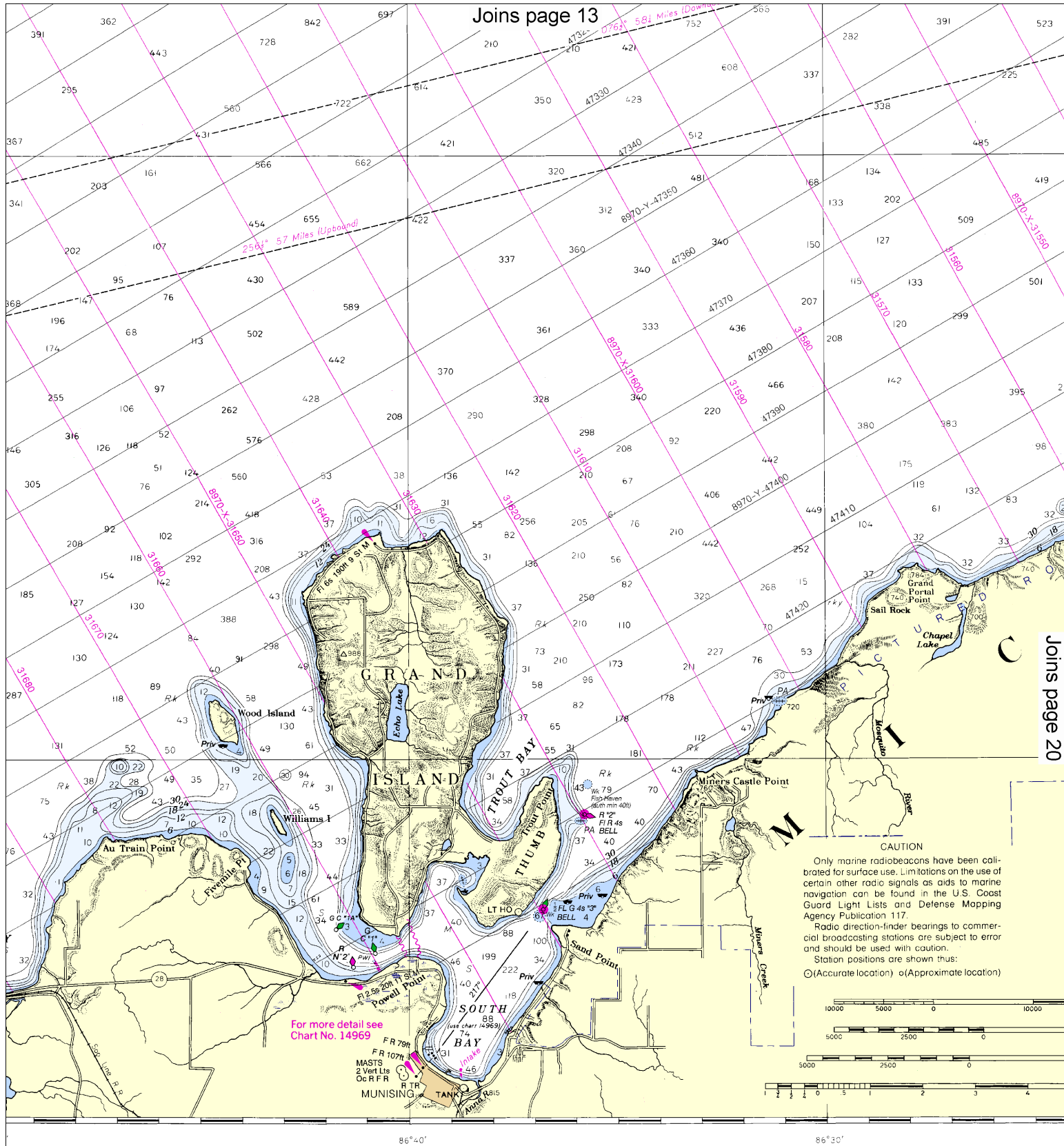


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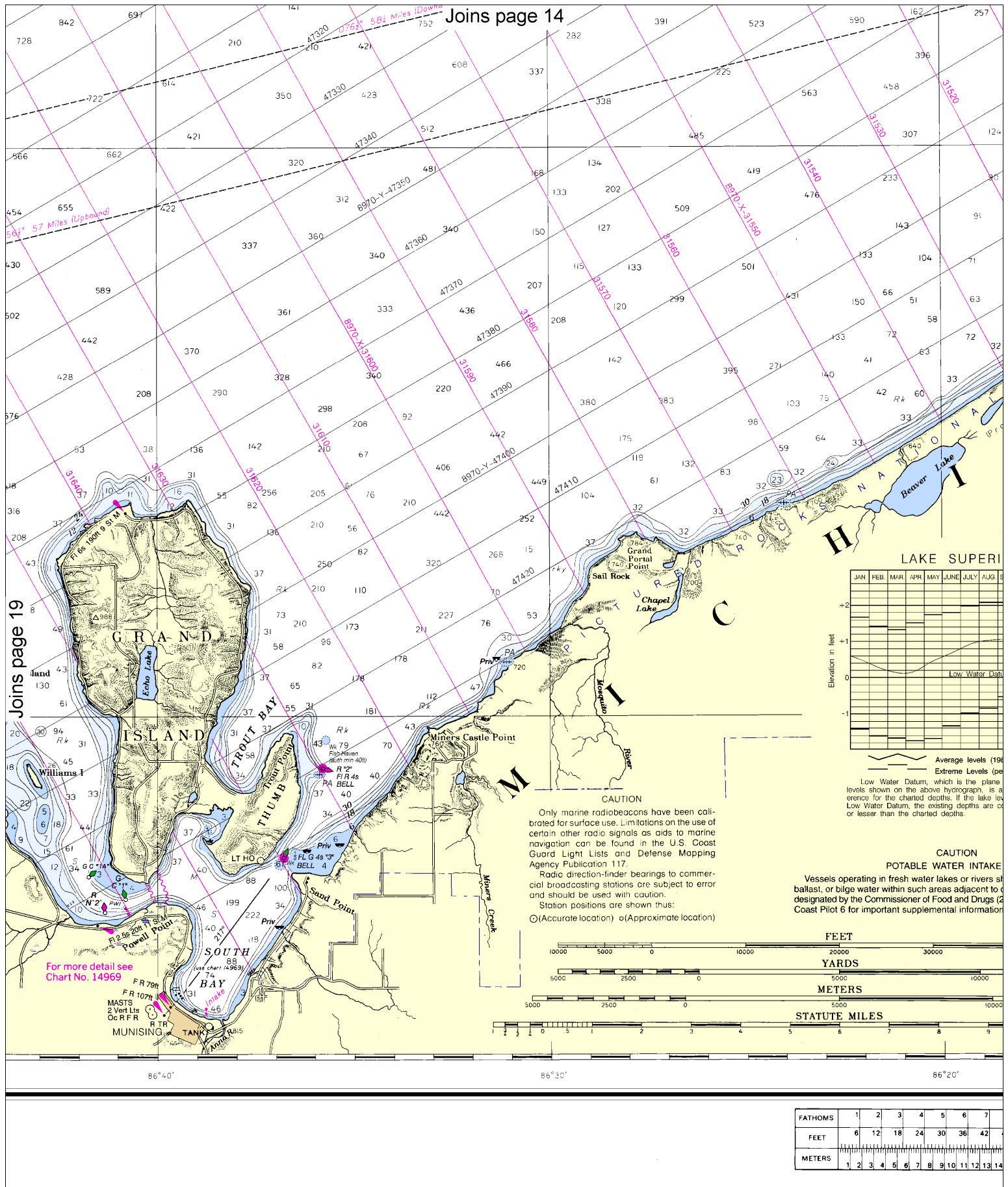
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See Note on page 5.

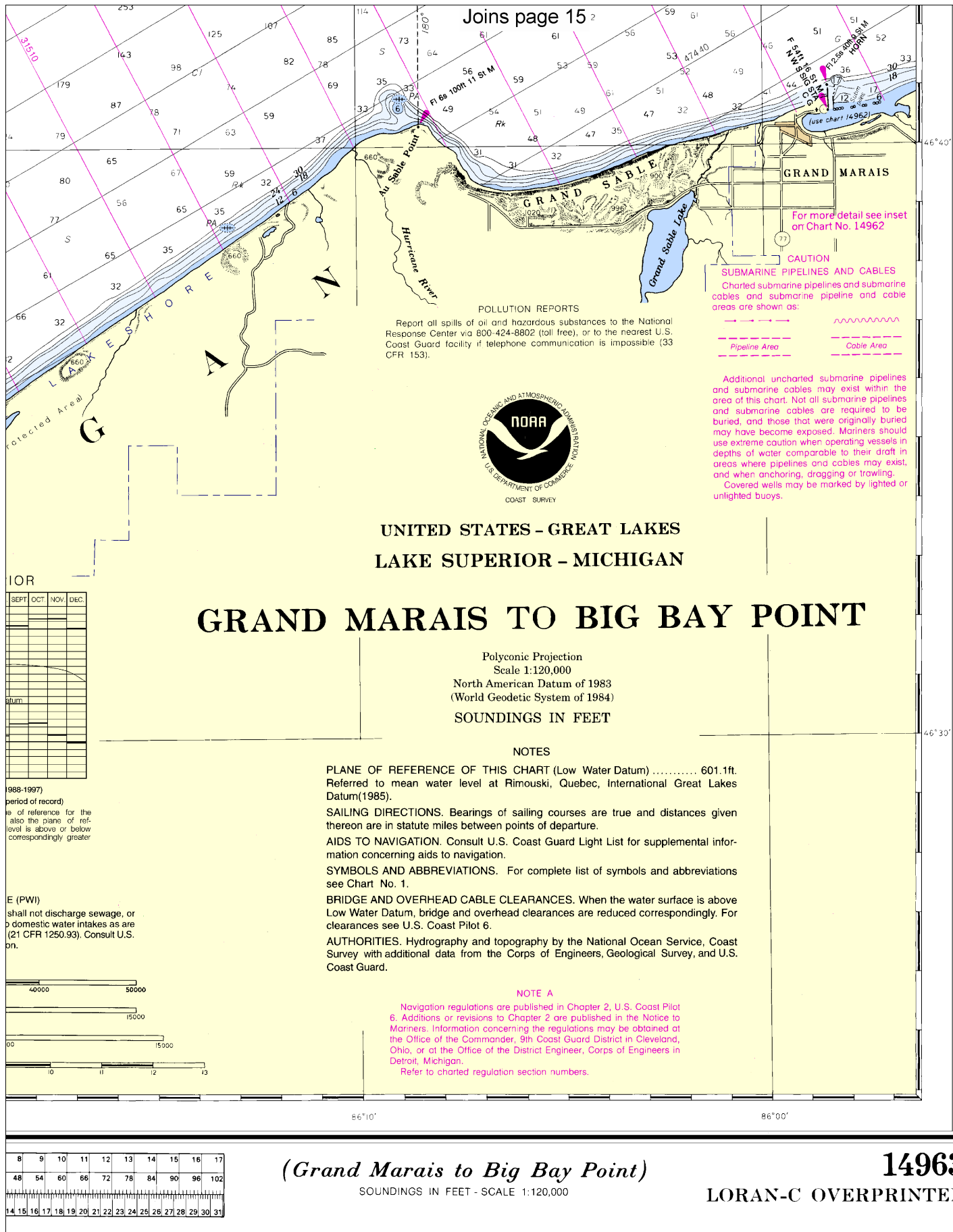




Washington, D. C.
DEPARTMENT OF COMMERCE
ATMOSPHERIC ADMINISTRATION
OCEAN SERVICE
FISH SURVEY



20



ED NO. 20
14XCO14963
DATA STOCK NO.



EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other

vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

Quick References

Nautical chart related products and information	—	http://www.nauticalcharts.noaa.gov
Online chart viewer	—	http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html
Report a chart discrepancy	—	http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx
Chart and chart related inquiries and comments	—	http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs
Chart updates (LNM and NM corrections)	—	http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
Coast Pilot online	—	http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm
Tides and Currents	—	http://tidesandcurrents.noaa.gov
Marine Forecasts	—	http://www.nws.noaa.gov/om/marine/home.htm
National Data Buoy Center	—	http://www.ndbc.noaa.gov/
NowCoast web portal for coastal conditions	—	http://www.nowcoast.noaa.gov/
National Weather Service	—	http://www.weather.gov/
National Hurricane Center	—	http://www.nhc.noaa.gov/
Pacific Tsunami Warning Center	—	http://ptwc.weather.gov/
Contact Us	—	http://www.nauticalcharts.noaa.gov/staff/contact.htm



— For the latest news from Coast Survey, follow @nauticalcharts



This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

NOAA's Office of Coast Survey



The Nation's Chartmaker